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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,063	09/21/2005	Hiroshi Kamo	1843.1005	5764
21171	7590	07/24/2007	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			ZIMMER, MARC S	
ART UNIT		PAPER NUMBER		
		1712		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,063	KAMO ET AL.	
	Examiner	Art Unit	
	Marc S. Zimmer	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 21 September 2005.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-4,8 and 13-16 is/are rejected.
 7) Claim(s) 5-7 and 9-12 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>09/21/05, 05/21/07</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

Claim Analysis

Applicant is advised that, for the purpose of evaluating the claimed invention against the prior art, the phrase "for printed circuit product" is considered to be nothing more than an intended use recitation and, further, that a prior art film will be considered to have "mold releasing" characteristics provided that it has a compositional makeup similar to that contemplated by the claims. As for claims 13 and 14, these are product by-process claims. "Even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process" *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). Therefore, the reference need not mention these particular approaches for producing a film provided that a patentable indistinguishable film could be produced by other methods. The Examiner does not see that any special properties are imparted to a polyarylene film merely because it has been made using one of the methodologies recited in these claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-4, 8, and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Hirayama et al., U.S. patent Application Publication No. 2004/0214006. This reference describes a member for a circuit board comprising a prepreg to which is provided on at least one side a release film (abstract). Relevant to the present discussion, the release film is, in one permutation, comprised of polyphenylene oxide (paragraphs 23 and 44) -see also the references to films 2 and 6 in paragraphs 36 and 38. Paragraphs 25 and 26 describe the incorporation of inorganic particulate of several metals, including magnesium and zinc, as heat absorbing substances.

The property limitation of claim 15 is regarded as having been inherently satisfied by the prior art given that claimed- and prior art release films are similarly constituted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hirayama et al., U.S. patent Application Publication No. 2004/0214006. Hirayama does not expressly contemplate a release film comprising a combination of polyphenylene oxide and liquid crystalline polyester. It is noted, however, that paragraph 23

contemplates the employment of a plurality of resins including polyethylene terephthalate, which Applicant has highlighted as an embodiment of the liquid crystalline resin, in the formation of the release film. Given the relatively small number of resins advocated in addition to polyphenylene oxide, it is the Examiner's position that a polymer blend comprising these two particular polymers is obvious. Avoiding deformation such as contraction of a mold release film is a clear concern addressed by the prior art invention according to the abstract hence it is obvious that flexible printed circuit boards are an application for which the invention is to be exploited.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

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Allowable Subject Matter

Claims 5-7 and 9-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Echigo et al., U.S. Patent Application Publication No. 2005/0016764 mentions polyphenylene oxide as an embodiment of a release film for the manufacture of a

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curcuit board but does not qualify as a reference. JP 62-103450 is of interest primarily because it discloses a polyphenylene ether-based composition that is purported to have good mold release characteristics but it appears to only describe molded products derived therefrom exclusive of films. Kamo et al., JP 2003-231806 teaches a resin composition comprising several components of the claimed invention including a polyphenylene ether, hydrogenated polystyrene/conjugated diene copolymer and liquid crystal polyester but, as before, there is no mention of the preparation of a film. Cogswell et al., U.S. Patent # 4433083 is of interest because it discloses the employment of a liquid crystalline polyester as an adjutive for improving the melt processability of various thermoplastics including polyarylene oxide.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc S. Zimmer whose telephone number is 571-272-1096. The examiner can normally be reached on Monday-Friday 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

July 23, 2007



MARCS ZIMMER
PRIMARY EXAMINER